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Heart Failure

HEMODYNAMIC IMPROVEMENT FOLLOWING LEVOSIMENDAN TREATMENT IN ACUTE MYOCARDIAL INFARCTION COMPLICATED BY CARDIOGENIC SHOCK PATIENTS TREATED WITH PRIMARY PCI AND IABP

Poster Contributions
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Background: To investigate the adjunctive effects of Levosimendan on left ventricular function in patients with cardiogenic shock (CS) complicating acute myocardial infarction (AMI) treated by primary percutaneous coronary interventions (PPCIs), inotropes, vasopressors and intra-aortic balloon counterpulsation (IABP).

Methods: From April 2009 to January 2012, 79 patients admitted to our Department for AMI complicated by CS underwent to PPCIs, IABP and inotropes and vasopressor when required; thirty-one patients died during the hospitalization and were excluded from our study. Sixteen patients received Levosimendan as adjunctive therapy (L group, n=12; Control Group(C): n=36). Levosimendan patients received 0.05-0.2 micrograms/Kg/min infusion rate, without initial bolus, for a duration of 24 hours. An echocardiographic evaluation was performed at baseline and at discharge. The following parameters were evaluated: left ventricular (LV) volumes, ejection fraction (EF) and systolic pulmonary artery pressure (SPAP).

Results: Forty-eight patients (mean age 68,3 ± 2.08 years, 33 males) were included into the study. At baseline EF was 32,7 ± 0,94 %, LV end-diastolic volume was 92 ± 10 ml/m2, LV end-systolic volume was 60 ± 8 ml/m2; baseline SPAP was 51 ± 5 mm Hg. No significant differences were observed between the groups in term of baseline characteristics. At discharge: EF was 35.6 ± 3.2 % in C group and 38.5 ± 2% in L group (p=0.0018); LV end-diastolic volume was 87 ± 4 ml/m2 in C group and 83 ± 10 ml/m2 in L group (p=0.01); LV end-systolic volume was 56 ± 6 ml/m2 in C group and 51 ± 7 ml/m2 in L group (p=0.013). Moreover there was a significant SPAP reduction in L group (52 ± 6 vs 43 ± 7mm Hg; p=0.0027); on the contrary, no statistically significant SPAP reduction was observed in C group (50 ± 9 vs 49 ± 8.5 mm Hg; p=0.19). No significative differences were observed in term of clinical outcome at 1 month (cardiovascular death: 5.2% i (L) vs 5.6 %(C))

Conclusion: Levosimendan, as adjunctive therapy in patients with AMI complicated by CS treated with IABP, may be safe; it significantly improves LV function and reduces left ventricular volumes and PAPs compared to patients treated only with IABP.